

CLAIMS

What is claimed is:

1. A deposition mask frame assembly comprising:
a mask comprising a thin plate in which a predetermined pattern of apertures is formed;
a frame supporting one surface of the mask so that the mask is tensed; and
a cover mask supporting an opposite surface of the mask, wherein the cover mask corresponds to the frame.
2. The deposition mask frame assembly of claim 1, wherein the mask is formed of nickel or an alloy of nickel and cobalt.
3. The deposition mask frame assembly of claim 2, wherein the mask is formed by electro-forming.
4. The deposition mask frame assembly of claim 1, wherein the mask, the frame, and the cover mask are joined together by welding.
5. The deposition mask frame assembly of claim 4, wherein the welding is a dot welding.
6. The deposition mask frame assembly of claim 5, wherein a welding pitch between welding dots is 3mm or less.
7. The deposition mask frame assembly of claim 1, wherein the cover mask is configured so as to support the four edges of the mask.
8. A method of manufacturing a deposition mask frame assembly, the method comprising:
electrodepositing a metal on an electrodepositing plate using an electro-forming method, wherein the metal is electrodeposited to a predetermined thickness, and the electrodepositing plate has a film attached corresponding to shielding portions that form an outer portion of a mask and define apertures in the mask;

separating the mask from the electrodepositing plate; and
installing a frame on one surface of the mask and installing a cover mask on the other surface of the mask while the mask is being tensed, and welding the cover mask, the mask, and the frame.

9. The method of claim 8, wherein the predetermined thickness is 30-50 μ m.
10. The method of claim 8, wherein the mask comprises nickel or an alloy of nickel and cobalt.
11. The method of claim 8, wherein the inner circumference of the cover mask is larger than an outer circumference of a substrate on which a layer is deposited.
12. The method of claim 8, wherein different tensions are applied to different sides of the mask to reduce a deviation of a total pitch of apertures and a line deviation.
13. The method of claim 8, wherein a portion of the cover mask and an edge of the mask are cut off to match a size and shape of the mask and the cover mask with the frame.
14. A method of manufacturing an organic EL device, the method comprising:
forming a first electrode layer in a predetermined pattern on an insulating substrate;
forming an organic film comprising at least a patterned emission layer on the first electrode layer;
forming a second electrode layer in a predetermined pattern on the organic film; and
sealing the second electrode layer,
wherein at least one of the organic film and the second electrode layer is deposited using a deposition mask frame assembly, the deposition mask frame assembly comprising:
a mask comprising a thin plate in which a predetermined pattern of apertures is formed,
a frame supporting one surface of the mask so that the mask is tensed, and
a cover mask supporting an opposite surface of the mask, wherein the cover mask corresponds to the frame.

15. The method of claim 14, wherein the mask is formed of nickel or an alloy of nickel and cobalt.
16. The method of claim 14, wherein the mask is formed by electro-forming.
17. The method of claim 14, wherein the mask, the frame, and the cover mask are joined together by welding.
18. The method of claim 17, wherein the welding is a dot welding.
19. The method of claim 18, wherein a welding pitch between welding dots is 3mm or less.